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1939

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ROME — PRINTING OFFICE 'CARLO COLOMBO.'

CHRONICLE OF THE INTERNATIONAL INSTITUTE OF AGRICULTURE

The radio communiqués of the International Institute of Agriculture will be transmitted between 2.45 and 2.52 p. m. on the following days: Thursday, **English** ***and*** **German;** ***Friday,*** **Spanish;** ***Tuesday,*** **Italian** ***and*** **French.**

They will be broadcast from Rome II (245.5 m.) and Rome 2 RO 4 (25.4 m.).

The hour of broadcasts is Central European Time, which is one hour ahead of Greenwich Mean Time, and 5 hours ahead of Eastern Standard Time in the United States.

International Conferences. — International meetings to be held in the near future include the following.

Xth Congress of the International Chamber of Commerce (Copenhagen, June 26 to July 1, 1939).

The opening session will be held in the Raadhuset (Town Hall) and the other meetings in the Rigsdagen (Parliament).

Those taking part will be granted reductions in fares by the railway companies and by the shipping and air lines.

Applications for membership and inquiries should be sent to the Secretaries of the National Committees of the International Chamber of Commerce in the various countries or to the General Secretariat of the International Chamber of Commerce, 38, Cours Albert Ier, Paris (8e).

VIth International Chemical Congress of Agricultural Industries (Budapest, July 10-20, 1939).

The agenda of this meeting includes several subjects of topical interest.

Lectures, visits to industrial scientific establishments, practical experiments, study excursions and an exhibition have been organised.

Members will be granted reductions in railway fares in most of the countries through which they will travel.

Further information may be obtained from the Secretary General of the VIth International Chemical Congress of Agricultural Industries, Maria-Valéria-utca 10, III emelet, Budapest.

VIIth International Congress of Genetics. (Edinburgh, August 23 to 30, 1939).

The work of the Congress is divided into 7 Sections and 2 Subsections.

Excursions before, during and after the Congress, receptions and visits to art galleries and museums have been organised in connection with the meeting.

Applications for membership and all inquiries should be sent to the Secretary General of the Congress, Prof. F. A. E. Crew, Institute of Animal Genetics, West Mains Road, Edinburgh, 9.

Vth International Conference of Wood Utilisation (Zurich, August 29 to 31, 1939).

This Conference will be held during the Swiss National Exhibition at Zurich and a visit to the wood section is being prepared.

The final programme will be settled later.

Applications for membership and all inquiries should be addressed to M. N. de Felsövanyi, Director of the International Forestry Commission, 50 rue Neuve, Brussels.

Participation of the Institute in international meetings. — Delegates on the Permanent Committee, the Secretary General and officials on the staff of the International Institute of Agriculture attended the following international meetings.

Xth Session of the Wheat Advisory Committee (London, January 10-14, 1939).

The agenda contained *inter alia* the following items:—

(1) To consider the Secretariat's report on the present and prospective international wheat situation.

(2) To consider to what extent the adoption of sound nutritional policies would bring about a shift in production from bread cereals to protective foodstuffs, and thus ease the international wheat problem.

(3) To consider the suggestion, made by the Northwest Grain Dealers' Association, that an international wheat research institute be established.

(4) To consider the prospects of reaching agreement in principle upon an effective international wheat scheme and, should they appear favourable, to consider what recommendations should be made to governments regarding: (*a*) the convening at an early date of an international wheat conference; and (*b*) the concrete proposals that should be considered by that conference with a view to reaching full agreement.

The provisional edition of the Institute's publication "The World Wheat Situation in 1938-39" was presented to the delegates of the various countries during the discussions on the first item on the agenda.

IVth Conference of the International Committee for the mutual study of the control of the Colorado Beetle (Wageningen, February 2-3, 1939).

Representatives for England, Jersey (Channel Islands), Latvia, Poland and Czecho-Slovakia attended this meeting for the first time.

The Conference decided, *inter alia*, " to recommend the Departments concerned to send a brief report at least once a year to the International Institute of Agriculture on the Colorado beetle situation and on control measures in each country in Europe. These reports will be published in the International Bulletin of Plant Protection and in the corresponding French edition (Moniteur International de la Protection des plantes) as and when they are received which should be, as far as possible, before the end of the year ".

VIIIth International Congress of Tropical and Sub-Tropical Agriculture (Tripoli, March 13 to 17, 1939).

The Congress passed the following resolution at its closing session:

" The Assembly of Delegates and Members of the VIIIth International Congress of Tropical and Sub-tropical Agriculture, on the conclusion of its proceedings at Tripoli on March 17, 1939, in the presence of His Excellency, the Governor-General, Italo Balbo.

expresses its admiration for the achievements of Italy in Libya, achievements which are the inspiration of new policies of colonisation and settlement and which exalt labour as the essential factor of wealth.

Though not forgetting the achievements of colonising nations which have encouraged agricultural progress in all parts of the world, the Assembly recognises that the native labour force, properly organised within the limits of the traditional exigencies of life, also constitutes an essential element of progress and declares that the exploitation of tropical and subtropical lands is an essential and integral part of the world agricultural economy. Hence, colonisation by opening a path for civilisation contributes, by the increase of wealth, to the welfare of all peoples.

* * *

International Office of the International Scientific Association of Agriculture in Hot Countries.

On Saturday evening, March 18, 1939, immediately after the Congress of Tropical and Subtropical Agriculture, at Tripoli, a meeting of this Office was held for the purpose of provisionally extending the list of Vice-Presidents and members.

PUBLICATIONS OF THE INTERNATIONAL INSTITUTE OF AGRICULTURE

JUST OUT:—

THE WORLD AGRICULTURAL SITUATION IN 1936-37 AND 1937-38

Agricultural production and the supply of agricultural products – The general economic background of the agricultural situation – International economic relations – World trade in agricultural products – Agricultural prices and incomes – Agricultural policies in the different countries.

A volume of 284 pp., 8vo. — Price: 25 lire.

JUST OUT:—

THE WORLD WHEAT SITUATION IN 1938-39

The new wheat depression – The wheat area in 1938 – Wheat yields in 1938 – Wheat production in 1938 – Exportable supplies and world wheat requirements in 1938-39 – The world wheat trade in 1938-39 – Detailed statistical tables: *a*) Area, production and yield per acre; *b*) Imports and exports; *c*) Exportable supplies, import requirements, consumption and stocks; *d*) Prices.

A volume of 100 pp., 8vo. — Price: 20 lire.

JUST OUT:—

No. 4. - OILS AND FATS: PRODUCTION AND INTERNATIONAL TRADE

Part I. — Vegetal oils and fats (products of herbaceous crops; products of tree crops; trends of world production of and trade in oleaginous vegetal raw materials and their products).

A volume of 350 pp., 8vo. — Price: 25 lire.

INTERNATIONAL BULLETIN
OF PLANT PROTECTION

1939 No. 4

DISCOVERIES AND CURRENT EVENTS *

Italian East Africa: Locust Movements in 1938 †

Schistocerca gregaria. This species was not reported in any part of the territory. A temporary patrolling service was set up in the outbreak area of the Red Sea coastal zone.

Locusta migratoria migratorioides. During the January-June period, this locust was not seen in the territory.

From July 8 to 12, the first swarms were observed in Eritrea in the Om Ager area (western low-lying plain); the direction taken was southwest to northeast. Other swarms, nearing more and more the sexual maturity stage, followed in the Mareb region and in the bordering areas, coming from the Anglo-Egyptian Sudan and flying eastwards. The other regions of Italian East Africa were not yet invaded.

In August, the locusts were seen in Eritrea still further towards the east, and were found in the western low-lying plain, the tableland, and especially in the Adi Ugri area. Egg-laying and hatchings were reported in Tessenei, Barentù and Agordat. On August 30, the first swarms appeared in Amhara and Gallabat (zone bordering the Sudan), flying from north to south. These swarms were reported at Metemma on the 21st and at Matabià and Quorà a few days later.

During the first twenty days of September, swarms appeared throughout western Eritrea, flying from west to east. In the same period, swarms succeeded frequently in all the territories of Amhara to the west and north-west of Lake Tana. During the last ten days of September, swarms were found, chiefly in Eritrea. Heavy damage was done throughout the low-lying plain and on the western slopes between the 11th and 16th parallel.

On September 17, two swarms from the Sudan appeared in Beni Sciangul territory, directed towards the south. From this period, swarms were frequent, flying from north to south and from northwest to southeast.

All the regions situated to the east of the 39th meridian and to the south of the 9th parallel were still immune.

* Under this and the next heading the countries are arranged in French alphabetical order.

† Communication from the ' Ispettorato agrario ' of the Government of Italian East Africa, Addis Ababa.

In October, hatchings were frequent in the zones of the western low-lying plain, Hamasien and Tigrai. Inspection and control operations were only partially effective in these regions, owing to the extent of the area, the sparse population, etc.

On the uplands of Eritrea very large swarms from the Sudan directed towards the east were still frequent. Some parasites of this locust were reported (*Trombidium* and *Empusa grylli*). Very severe damage was caused in all the zones attacked in Eritrea, to pasturage and crops about to be harvested.

From the first days of October, large swarms appeared in Uolcait, and during the rest of the month, throughout the northeastern part of Amhara. On October 11, a swarm appeared in Semien and continued its flight towards Addi Arcai. Towards the end of the month invasions were very numerous and caused severe damage in the zones of Bircutan, Dembeà, Ismala Gheorghis and Gubba; the dominant directions were north to south and northwest to southeast.

On October 29, a fresh invasion took place in Asosa, in the Beni Sciangul, the swarms arriving from the north-west, and later in November, three other invasions occurred one after the other.

In November, the centre of attack in Eritrea shifted from the western low-lying plain towards Tigrai. The swarms had no definite direction and did not move far. Some swarms, which had crossed the upland towards the eastern depression of Dancalia, returned towards the west after a few days.

An outbreak area, reported in Gasch, was kept under control.

During November, swarms were reported throughout the territory of Amhara; the zones most severely affected were the environs of Lake Tana, Acefer, Cangià and Engiabarà. The first attacks in Lasta and in Uollo Jeggiù were reported. The most easterly swarms shifted from the Lake Haik zone towards the south along the depression of Combolcià Ciaffà up to Choa.

Egg-laying was reported in the western low-lying plain, in the Gondar zone in the Gurabba plain.

On November 22, numerous swarms invaded the Saio regions and continued southwards. During this period Lekemti was invaded and swarms continued across the Guma, Limmu and Giangerò territories; they appeared, in fact, during the following days in these regions and in Gimma. On December 9, Lekemti was again invaded.

From November 25 to the end of December, Gore was invaded almost daily by swarms mainly from the north and north-west; much of the crops was destroyed.

During December, the swarms were centred in Eritrea; in western Tigrai and Amhara, they shifted to the Uollo territory and centred at Lake Haik. The Uolcait, Lasta and Gubba territories, however, continued to be invaded and further invasions from the Sudan along the frontier zone took place.

A swarm reported in the Arafali zone (eastern low-lying plain) which had begun egg-laying was destroyed by the control service.

Swarms from Lake Haik appeared in the Debra Sina and Amcober zone on December 7 and 8; some swarms continued their flight towards the eastern low-

With the authors compliments

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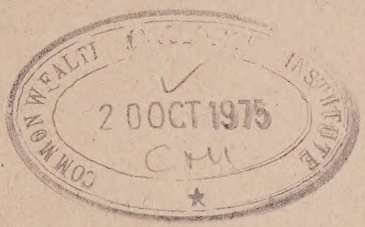

Palestine: Plant Diseases of Citrus *

In the following a preliminary list of diseases occurring on citrus plants in Palestine studied at the Division of Plant Pathology of the Agricultural Research Station, Rehovot, from 1923 to 1938 is given. The author was assisted in the determination and collection of these diseases by Dr. M. Chorin and Ing. G. Minz, Assistants of the above mentioned laboratory.

Citrus aurantifolia Swingle var. *dulcis*. — Sweet lime.

Alternaria sp.	Leaf spot, black tip, associated with stem spot.
Bacterium citriputeale C. O. Smith.	Blast of twigs.
Colletotrichum gloeosporioides Penz.	Associated with citrus wither-tip and leaf spot.
Deuterophoma tracheiphila Petri.	' Mal secco '.
Diplodia natalensis Pole Evans.	Blight of branches.
Fusarium sp.	Damping off, root rot of trees.
Ganoderma sp.	Wood rot.

* Communication from the official correspondent of the Institute, Dr. I. Reichert, Chief Plant Pathologist, Division of Plant Pathology, Agricultural Research Station, Rehovot, Palestine.

Oospora sp.	Fruit rot.
Phoma sp.	Seedling tip rot, on stubs.
Phytophthora citrophthora Smith and Smith.	Gummosis of trunk and collar.
Phyt. citrophthora Smith and Smith.	Seedling, stem and tip blight.
Phyt. parasitica Dastur.	
Rhizoctonia bataticola (Taub.) Butl.	Damping off, collar and root rot of trees.
R. solani Kühn.	Damping off.
Rhizoctonia sp.	Damping off.
Sooty mould, undet.	On leaves.
Collar rot, undet.	
Damping off, undet.	
Dry root rot, undet.	
? Ring blotch, undet.	
Albinism, non-parasitic.	On seedlings.
Bench rooting, non-parasitic.	On seedlings.
Chlorosis, undet.	
Frost injury.	On seedlings and trees.
Gum spot, undet.	On leaves.
Hot wind injury.	
Mottle leaf, undet.	
Stem spot, non-parasitic.	Seedlings.
Sun scald.	
Xyloporosis, non-parasitic.	
Cuscuta monogyna Vahl.	On young trees.
Nematodes, undet.	On seeds, on roots.

Citrus aurantium L. – Sour orange.

Alternaria sp.	Leaf spot, black tip, damping off, associated with stem spot.
Bacterium citriputeale C. O. Smith.	Black pit and blast.
Colletotrichum gloeosporioides Penz.	Associated with wither-tip and 'mal secco'; leaf spot.
Diplodia natalensis Pole Evans.	Blight of branches.
Fusarium sp.	Damping off, collar and root rot.
Macrosporium sp.	Leaf spot.
Oospora sp.	Seed rot.
Penicillium sp.	Seed rot.
Phytophthora citrophthora Sm. and Sm.	Seedling stem and tip blight.
Phyt. parasitica Dastur.	Brown rot.
Pythium sp.	Damping off.
Rhizoctonia bataticola (Taub.) Butl.	Collar and root rot.
R. solani Kühn.	Damping off, root rot.
Rhizoctonia sp.	Collar rot.

Sclerotinia sp.	Graft rot.
Collar rot, undet.	Gummosis.
Damping off, undet.	
Dry root rot, undet.	
Gummosis, undet.	
Albinism, non-parasitic.	Seedlings.
Chlorosis, undet.	
Frost injury.	Seedlings and trees.
Gum spot, undet.	Leaves.
Hot wind injury.	
Mottle leaf.	
Stem spot, non-parasitic.	
Sun scald.	
Cuscuta sp.	

Citrus limonia osbeck. – Lemon.

Alternaria sp.	Associated with wither-tip; leaf spot, black fruit rot.
Bacterium citriputeale C. O. Smith.	Blast and black pit.
Botryosphaeria ribis Gros. and Dug.	Blight of branches.
Colletotrichum gloeosporioides Penz.	Associated with wither-tip and ' mal secco '; leaf spot, anthracnose, fruit rot.
Deuterophoma tracheiphila Petri.	' Mal secco '.
Diplodia natalensis Pole Evans.	Blight of branches.
Dothiorella gregaria Sacc. (?)	Blight of branches.
Fusarium sp.	Stem, collar and root rot; twig blight, gummosis, fruit rot.
Oospora sp.	Associated with *Colletotrichum* fruit rot.
Phytophthora sp.	Brown rot of fruit.
Rhizoctonia bataticola(Taub.) Butl.	Root rot.
Sclerotinia sclerotiorum (Lib.) Mass.	Twig dry rot.
Breakdown spot, non-parasitic.	Petioles.
Brown twig spot, non-parasitic.	
Frost injury.	Fruit.
Gummosis, non-parasitic.	Twigs.
Gum spot, undet.	
Hail spot.	Fruit.
Leaf spot, non-parasitic.	
Leaf scorch, non-parasitic.	
Leaf yellowing, non-parasitic.	
Sun scald.	
Wither-tip, undet.	Branches.
Wind injury.	Twigs.
Cuscuta monogyna Vahl.	

Citrus maxima (Burm.) Merrill. – Pummelo.

Sclerotinia minor Jagger.	Fruit rot.
Fruit cracking, non-parasitic.	
Leaf roll, non-parasitic.	

Citrus medica L. – Citron (Ethrog).

Alternaria sp.	Associated with blight.
Bacterium citriputeale C. O. Smith.	Blast.
Colletotrichum gloeosporioides Penz.	Anthracnose, fruit rot.
Deuterophoma tracheiphila Petri.	' Mal secco '.
Diplodia natalensis Pole Evans.	Blight of branches.
Fusarium sp.	Stem rot (on sweet lemon).
Penicillium sp.	Fruit rot.
Breakdown (Nuksan), non-parasitic.	Fruit.
Endoxerosis, non-parasitic.	Internal decline.
Frost injury.	
Leaf yellowing, non-parasitic.	
Little leaf, undet.	
? Ring blotch.	

Citrus nobilis Lour. var. *deliciosa* Swingle. – Mandarin.

Bacterium citriputeale C. O. Smith.	Blast.
Colletotrichum gloeosporioides Penz.	Associated with citrus blast.
Penicillium digitatum Sacc.	Green mould on fruit.
Phomopsis sp.	Blight.
Pleospora sp.	Fruit rot.
Black tip, non-parasitic.	
Chlorosis, non-parasitic.	
Fruit cracking, non-parasitic.	
Leaf scorch, non-parasitic.	
Sun scald.	
Wind injury.	

Citrus paradisi Macf. – Grapefruit.

Alternaria sp.	
Bacterium citriputeale C. O. Smith.	Blast of twigs.
Botryosphaeria ribis Gros. and Dug.	Blight of branches.
Botrytis sp.	Grey mould of fruits.
Cladosporium sp.	Sooty mould.
Colletotrichum gloeosporioides Penz.	Associated with wither-tip; leaf spot.
Didymella sp.	Leaf spot.
Diplodia natalensis Pole Evans.	Blight of branches.
Fusarium sp.	Stem, collar and root rot, fruit rot, gummosis.

Leptothyrium pomi (Mont. and Fr.) Sacc.	Fly speck on fruits.
Penicillium digitatum Sacc.	Green mould of fruits.
Phytophthora citrophthora Sm. and Sm.	Brown rot of fruits.
Phyt. parasitica Dastur.	Brown rot of fruits. Collar rot (on sour orange).
Phytophthora sp.	Fruit rot.
Pleospora sp.	Leaf spot.
Rhizoctonia bataticola (Taub.) Butl.	Root rot (on sour orange).
R. solani Kühn.	Collar and root rot (on sour orange).
Sclerotinia sclerotiorum (Lib.) Mass.	Twig dry rot.
Sooty mould, undet.	Fruit, leaves.
Black tip, undet.	Leaves.
Dry rot, undet.	On sour orange and sweet lemon.
Gummosis, undet.	Trunk, twigs.
Leaf spot, undet.	
Wither-tip, undet.	Trees.
Bench rooting, non-parasitic.	On sour orange.
Endoxerosis, non-parasitic.	Internal decline of fruits.
Frost injury.	Trees.
Fumigation injury.	
Gum spot, undet.	Twigs, leaves.
Hot wind.	
June drop.	
Little leaf.	Young trees.
Mottle leaf, non-parasitic.	
Oleocellosis.	On fruit.
Pitting.	Storage and cold storage blemishes.
Puffing.	On fruits.
Scald.	Storage and cold storage blemishes and on the trees.
Stigmanose.	Leaves.
Cuscuta monogyna Vahl.	

Citrus sinensis Osbeck. – Orange.

Alternaria sp.	Leaf spot, fruit rot; associated with citrus wither-tip, leaf scorch, stem spot, and sun scald.
Bacterium citriputeale C. O. Smith.	Blast, black pit.
Botryosphaeria ribis Gros. and Dug.	Blight.
Capnodium citri Penz.	Sooty mould.
Colletotrichum gloeosporioides Penz.	Anthracnose, associated with blight; leaf spot; fruit rot.
Cytosporina sp.	Twig gumming (cambium brown).

Diplodia natalensis Pole Evans.	Gummosis, blight, and stem-end rot.
D. warburgiana Reichert.	Blight of twigs.
Dothiorella gregaria Sacc. (?)	Blight of branches.
Fusarium sp.	Blight, trunk and collar rot; root bark sloughs off and rot.
Ganoderma sp.	Wood disintegration of collar and root.
Graphium sp.	Gummosis.
Leptothyrium pomi (Mont. and Fr.) Sacc.	Fly speck on fruit.
Macrosporium sp.	Leaf spot, associated with dessiccated twigs.
Penicillium digitatum Sacc.	Green mould of fruit.
P. italicum Wehmer.	Blue mould.
Phoma sp.	Stem spot, blight.
Phomopsis sp.	Blight.
Phytophthora parasitica Dastur.	Brown rot.
Phytophthora sp.	Brown rot.
Pleospora sp.	Twig rot, twig blight, leaf spot.
Polyporus sp.	Collar rot.
? Psorosis.	
Rhizoctonia bataticola (Taub.) Butl.	Collar and root rot.
R. solani Kühn.	Root rot.
Sclerotinia sclerotiorum (Lib.) Mass.	Twig dry rot.
Sooty mould, undet.	Leaves and fruits.
Dry root rot, undet.	Collar.
Gummosis, undet.	Stem and collar rot.
Bench rooting, non-parasitic.	
Brown leaf spot, undet.	
Pox or breakdown (Nuksan), non-parasitic.	Fruit.
Chlorosis, non-parasitic.	
Endoxerosis, non-parasitic.	Internal decline of fruit.
Etiolement.	
Frost injury.	
Fumigation injury.	
Graft wilting, non-parasitic.	
Gumming, non-parasitic.	Branches, twigs, petioles.
Gum spot, undet.	Leaves.
Hail injury.	
Hot wind (Khamsin) injury.	
June drop.	
Leaf roll, non-parasitic.	
Leaf scorch, non-parasitic.	
Leaf yellowing, undet.	

Little leaf, undet.	
Mottle leaf, non-parasitic.	
Oleocellosis, non-parasitic.	
? Ring blotch, undet.	
Stem spot, non-parasitic.	Especially on sweet lemon.
Stigminosis, non-parasitic.	Leaves.
Teratological malformations.	Fruit.
Wither-tip, undet.	Branches.
Xyloporosis, non-parasitic.	Young trees.
Xanthoria parietina (L.) Th.	On twigs.
Cuscuta sp.	

Citrus sinensis Osbeck. – Valencia Orange.

Fruit cracking.	
Puffing (Farush).	Fruit.

Citrus nobilis var. *deliciosa* × *C. paradisi*. – Tangelo Sampson.

Alternaria sp.	Fruit rot, seedling leaf roll and browning.
Macrosporium sp.	Seedling leaf roll and browning.
Rhizoctonia bataticola (Taub.) Butl.	Root rot.
Dothiorella gregaria Sacc. (?)	Blight of branches.
Exanthema, non-parasitic (?)	Twigs.

Poncirus trifoliata Raf.

Fusarium sp.	Damping off.
Rhizoctonia solani Kühn.	Damping off.

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lying plain, while the others took a southwesterly direction. During the second decade of December, swarms from the north-east directed towards the south-west were observed in Addis Alem, Ambò and Guder (Choa).

During the last decade of December, the central regions of Gimma were attacked on several occasions by swarms from the north, some of which remained in this zone taking different directions.

Finally, during the last days of December, the first invasions to the east of the lakes, in the Sidama and Arussi areas, were reported; at Dodolà (Gobba) in the Ticciò zone, the swarms came from the south.

In brief, at the end of December, 1938, swarms were observed in all the regions to the west of the 40th meridian; while invasions tended to diminish in gravity in Eritrea and in the north in general, they increased towards the south, tending eastwards. In 1938, no locusts were reported in Italian Somaliland or in eastern and central Harrar.

Control measures are being carried out systematically and with ample material in Eritrea. Poisoned bran was chiefly used, and to a lesser extent, flame throwers for direct control. In the other regions of Italian East Africa, control operations were not sufficiently organized to be effective, being carried out mainly by the natives under supervision.

Systematic locust control and investigation have now been introduced in Italian East Africa. The Agricultural Services are in charge and are assisted by the authorities and the people.

Palestine: Plant Diseases of Citrus *

In the following a preliminary list of diseases occurring on citrus plants in Palestine studied at the Division of Plant Pathology of the Agricultural Research Station, Rehovot, from 1923 to 1938 is given. The author was assisted in the determination and collection of these diseases by Dr. M. Chorin and Ing. G. Minz, Assistants of the above mentioned laboratory.

Citrus aurantifolia Swingle var. *dulcis*. — Sweet lime.

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Bacterium citriputeale C. O. Smith.	Blast of twigs.
Colletotrichum gloeosporioides Penz.	Associated with citrus wither-tip and leaf spot.
Deuterophoma tracheiphila Petri.	'Mal secco'.
Diplodia natalensis Pole Evans.	Blight of branches.
Fusarium sp.	Damping off, root rot of trees.
Ganoderma sp.	Wood rot.

* Communication from the official correspondent of the Institute, Dr. I. Reichert, Chief Plant Pathologist, Division of Plant Pathology, Agricultural Research Station, Rehovot, Palestine.

Oospora sp.	Fruit rot.
Phoma sp.	Seedling tip rot, on stubs.
Phytophthora citrophthora Smith and Smith.	Gummosis of trunk and collar.
Phyt. citrophthora Smith and Smith.	Seedling, stem and tip blight.
Phyt. parasitica Dastur.	
Rhizoctonia bataticola (Taub.) Butl.	Damping off, collar and root rot of trees.
R. solani Kühn.	Damping off.
Rhizoctonia sp.	Damping off.
Sooty mould, undet.	On leaves.
Collar rot, undet.	
Damping off, undet.	
Dry root rot, undet.	
? Ring blotch, undet.	
Albinism, non-parasitic.	On seedlings.
Bench rooting, non-parasitic.	On seedlings.
Chlorosis, undet.	
Frost injury.	On seedlings and trees.
Gum spot, undet.	On leaves.
Hot wind injury.	
Mottle leaf, undet.	
Stem spot, non-parasitic.	Seedlings.
Sun scald.	
Xyloporosis, non-parasitic.	
Cuscuta monogyna Vahl.	On young trees.
Nematodes, undet.	On seeds, on roots.

Citrus aurantium L. – Sour orange.

Alternaria sp.	Leaf spot, black tip, damping off, associated with stem spot.
Bacterium citriputeale C. O. Smith.	Black pit and blast.
Colletotrichum gloeosporioides Penz.	Associated with wither-tip and 'mal secco'; leaf spot.
Diplodia natalensis Pole Evans.	Blight of branches.
Fusarium sp.	Damping off, collar and root rot.
Macrosporium sp.	Leaf spot.
Oospora sp.	Seed rot.
Penicillium sp.	Seed rot.
Phytophthora citrophthora Sm. and Sm.	Seedling stem and tip blight.
Phyt. parasitica Dastur.	Brown rot.
Pythium sp.	Damping off.
Rhizoctonia bataticola (Taub.) Butl.	Collar and root rot.
R. solani Kühn.	Damping off, root rot.
Rhizoctonia sp.	Collar rot.

Sclerotinia sp.	Graft rot.
Collar rot, undet.	Gummosis.
Damping off, undet.	
Dry root rot, undet.	
Gummosis, undet.	
Albinism, non-parasitic.	Seedlings.
Chlorosis, undet.	
Frost injury.	Seedlings and trees.
Gum spot, undet.	Leaves.
Hot wind injury.	
Mottle leaf.	
Stem spot, non-parasitic.	
Sun scald.	
Cuscuta sp.	

Citrus limonia Osbeck. – Lemon.

Alternaria sp.	Associated with wither-tip; leaf spot, black fruit rot.
Bacterium citriputeale C. O. Smith.	Blast and black pit.
Botryosphaeria ribis Gros. and Dug.	Blight of branches.
Colletotrichum gloeosporioides Penz.	Associated with wither-tip and ' mal secco '; leaf spot, anthracnose, fruit rot.
Deuterophoma tracheiphila Petri.	' Mal secco '.
Diplodia natalensis Pole Evans.	Blight of branches.
Dothiorella gregaria Sacc. (?)	Blight of branches.
Fusarium sp.	Stem, collar and root rot; twig blight, gummosis, fruit rot.
Oospora sp.	Associated with *Colletotrichum* fruit rot.
Phytophthora sp.	Brown rot of fruit.
Rhizoctonia bataticola(Taub.) Butl.	Root rot.
Sclerotinia sclerotiorum (Lib.) Mass.	Twig dry rot.
Breakdown spot, non-parasitic.	Petioles.
Brown twig spot, non-parasitic.	
Frost injury.	Fruit.
Gummosis, non-parasitic.	Twigs.
Gum spot, undet.	
Hail spot.	Fruit.
Leaf spot, non-parasitic.	
Leaf scorch, non-parasitic.	
Leaf yellowing, non-parasitic.	
Sun scald.	
Wither-tip, undet.	Branches.
Wind injury.	Twigs.
Cuscuta monogyna Vahl.	

Citrus maxima (Burm.) Merrill. — Pummelo.

Sclerotinia minor Jagger.	Fruit rot.
Fruit cracking, non-parasitic.	
Leaf roll, non-parasitic.	

Citrus medica L. — Citron (Ethrog).

Alternaria sp.	Associated with blight.
Bacterium citriputeale C. O. Smith.	Blast.
Colletotrichum gloeosporioides Penz.	Anthracnose, fruit rot.
Deuterophoma tracheiphila Petri.	' Mal secco '.
Diplodia natalensis Pole Evans.	Blight of branches.
Fusarium sp.	Stem rot (on sweet lemon).
Penicillium sp.	Fruit rot.
Breakdown (Nuksan), non-parasitic.	Fruit.
Endoxerosis, non-parasitic.	Internal decline.
Frost injury.	
Leaf yellowing, non-parasitic.	
Little leaf, undet.	
? Ring blotch.	

Citrus nobilis Lour. var. *deliciosa* Swingle. — Mandarin.

Bacterium citriputeale C. O. Smith.	Blast.
Colletotrichum gloeosporioides Penz.	Associated with citrus blast.
Penicillium digitatum Sacc.	Green mould on fruit.
Phomopsis sp.	Blight.
Pleospora sp.	Fruit rot.
Black tip, non-parasitic.	
Chlorosis, non-parasitic.	
Fruit cracking, non-parasitic.	
Leaf scorch, non-parasitic.	
Sun scald.	
Wind injury.	

Citrus paradisi Macf. – Grapefruit.

Alternaria sp.	
Bacterium citriputeale C. O. Smith.	Blast of twigs.
Botryosphaeria ribis Gros. and Dug.	Blight of branches.
Botrytis sp.	Grey mould of fruits.
Cladosporium sp.	Sooty mould.
Colletotrichum gloeosporioides Penz.	Associated with wither-tip; leaf spot.
Didymella sp.	Leaf spot.
Diplodia natalensis Pole Evans.	Blight of branches.
Fusarium sp.	Stem, collar and root rot, fruit rot, gummosis.

Leptothyrium pomi (Mont. and Fr.) Sacc.	Fly speck on fruits.
Penicillium digitatum Sacc.	Green mould of fruits.
Phytophthora citrophthora Sm. and Sm.	Brown rot of fruits.
Phyt. parasitica Dastur.	Brown rot of fruits. Collar rot (on sour orange).
Phytophthora sp.	Fruit rot.
Pleospora sp.	Leaf spot.
Rhizoctonia bataticola (Taub.) Butl.	Root rot (on sour orange).
R. solani Kühn.	Collar and root rot (on sour orange).
Sclerotinia sclerotiorum (Lib.) Mass.	Twig dry rot.
Sooty mould, undet.	Fruit, leaves.
Black tip, undet.	Leaves.
Dry rot, undet.	On sour orange and sweet lemon.
Gummosis, undet.	Trunk, twigs.
Leaf spot, undet.	
Wither-tip, undet.	Trees.
Bench rooting, non-parasitic.	(On sour orange).
Endoxerosis, non-parasitic.	Internal decline of fruits.
Frost injury.	Trees.
Fumigation injury.	
Gum spot, undet.	Twigs, leaves.
Hot wind.	
June drop.	
Little leaf.	Young trees.
Mottle leaf, non-parasitic.	
Oleocellosis.	On fruit.
Pitting.	Storage and cold storage blemishes.
Puffing.	On fruits.
Scald.	Storage and cold storage blemishes and on the trees.
Stigmanose.	Leaves.
Cuscuta monogyna Vahl.	

Citrus sinensis Osbeck. – Orange.

Alternaria sp.	Leaf spot, fruit rot; associated with citrus wither-tip, leaf scorch, stem spot, and sun scald.
Bacterium citriputeale C. O. Smith.	Blast, black pit.
Botryosphaeria ribis Gros. and Dug.	Blight.
Capnodium citri Penz.	Sooty mould.
Colletotrichum gloeosporioides Penz.	Anthracnose, associated with blight; leaf spot; fruit rot.
Cytosporina sp.	Twig gumming (cambium brown).

Diplodia natalensis Pole Evans.	Gummosis, blight, and stem-end rot.
D. warburgiana Reichert.	Blight of twigs.
Dothiorella gregaria Sacc. (?)	Blight of branches.
Fusarium sp.	Blight, trunk and collar rot; root bark sloughs off and rot.
Ganoderma sp.	Wood disintegration of collar and root.
Graphium sp.	Gummosis.
Leptothyrium pomi (Mont. and Fr.) Sacc.	Fly speck on fruit.
Macrosporium sp.	Leaf spot, associated with dessiccated twigs.
Penicillium digitatum Sacc.	Green mould of fruit.
P. italicum Wehmer.	Blue mould.
Phoma sp.	Stem spot, blight.
Phomopsis sp.	Blight.
Phytophthora parasitica Dastur.	Brown rot.
Phytophthora sp.	Brown rot.
Pleospora sp.	Twig rot, twig blight, leaf spot.
Polyporus sp.	Collar rot.
? Psorosis.	
Rhizoctonia bataticola (Taub.) Butl.	Collar and root rot.
R. solani Kühn.	Root rot.
Sclerotinia sclerotiorum (Lib.) Mass.	Twig dry rot.
Sooty mould, undet.	Leaves and fruits.
Dry root rot, undet.	Collar.
Gummosis, undet.	Stem and collar rot.
Bench rooting, non-parasitic.	
Brown leaf spot, undet.	
Pox or breakdown (Nuksan), non-parasitic.	Fruit.
Chlorosis, non-parasitic.	
Endoxerosis, non-parasitic.	Internal decline of fruit.
Etiolement.	
Frost injury.	
Fumigation injury.	
Graft wilting, non-parasitic.	
Gumming, non-parasitic.	Branches, twigs, petioles.
Gum spot, undet.	Leaves.
Hail injury.	
Hot wind (Khamsin) injury.	
June drop.	
Leaf roll, non-parasitic.	
Leaf scorch, non-parasitic.	
Leaf yellowing, undet.	

Little leaf, undet.	
Mottle leaf, non-parasitic.	
Oleocellosis, non-parasitic.	
? Ring blotch, undet.	
Stem spot, non-parasitic.	Especially on sweet lemon.
Stigminosis, non-parasitic.	Leaves.
Teratological malformations.	Fruit.
Wither-tip, undet.	Branches.
Xyloporosis, non-parasitic.	Young trees.
Xanthoria parietina (L.) Th.	On twigs.
Cuscuta sp.	

Citrus sinensis Osbeck. — Valencia Orange.

Fruit cracking.	
Puffing (Farush).	Fruit.

Citrus nobilis var. *deliciosa* × *C. paradisi*. — Tangelo Sampson.

Alternaria sp.	Fruit rot, seedling leaf roll and browning.
Macrosporium sp.	Seedling leaf roll and browning.
Rhizoctonia bataticola (Taub.) Butl.	Root rot.
Dothiorella gregaria Sacc. (?)	Blight of branches.
Exanthema, non-parasitic (?)	Twigs.

Poncirus trifoliata Raf.

Fusarium sp.	Damping off.
Rhizoctonia solani Kühn.	Damping off.

Poland: The Beet Weevil *

The beet weevil, *Cleonus* (*Bothynoderes*) *punctiventris* Germ, recently reported in Poland, has already become a menace to the sugar industry and beet-growers in the county of Volhynia.

The appearance of some adult weevils in 1931 seemed only to have a scientific interest, but these insects have since increased to such an extent that in 1936, they were to be found in 16 localities. In the neighbourhood of Szpanów, the average number of adult insects per ha. amounted to 3000, In 1937, *B. punctiventris* was reported in 56 localities of 6 districts in Volhynia.

* Communication from the official correspondent of the Institute, Professor Stanisław Minkiewicz, Chief of the Department of Entomology, State Institute for Agricultural Research, Puławy, Poland.

As a control measure, protective ditches are dug around the beet fields, and the adult weevils are collected. Insecticides have not yet been tried.

Biological studies on the behaviour of the insect in Poland have been undertaken at the Volhynia Plant Protection Station at Luck.

Southern Rhodesia: Locust Invasion, 1932-38 *

Monthly Report No. 73. December, 1938.

Flying swarms of the red locust (*Nomadacris septemfasciata*, Serv.), some described as large and all either fully matured or approaching maturity, were reported during the month from seventeen districts in the Colony as follows:—

Mashonaland: Charter, Chibi, Darwin, Hartley, Lomagundi, Makoni, Mazoe, Mtoko, Melsetter, Nganga, Umtali and Victoria.

Matabeleland: Belingwe. Bulawayo, Bulalima-Mangwe, Gwanda and Insiza.

Egglaying, which commenced at the end of November, was reported from six districts in Mashonaland, namely: Chibi, Darwin, Hartley, Melsetter, Mtoko, and Umtali, and one district in Matabeleland, namely, Belingwe. Egglaying in the northern portion of the Darwin District has occurred on a large scale.

The first hopper swarms were reported from the Umtali District on the 19th instant, and from the Mtoko District on the 30th.

It would appear that the swarms invading the eastern districts from Portuguese East Africa were more advanced than the swarms originating in Southern Rhodesia.

Locust birds have been seen following many of the flying swarms.

Little damage has been reported generally, although 100 acres of maize was destroyed on one farm.

LEGISLATIVE AND ADMINISTRATIVE MEASURES

Algeria. — An Order of November 8, 1938 modifies the Order of September 12, 1932 regarding the organization of the Service for plant protection and phytopathological control. (*Journal Officiel de l'Algérie*, Alger, 25 novembre 1938, XII[e] année, n[o] 47, p. 2090).

Germany. — By Ministerial Order of November 7, 1938 amending the Decrees of March 28 and September 30, 1932 [see this *Bulletin*, 1929, No. 6, p. 83, and 1932, No. 12, p. 205] the purpose of which was to prevent the introduction of the carnation leaf-roller [*Tortrix pronubana*], the importation of

* Communication from Mr. J. K. Chorley, Acting Chief Entomologist, Agricultural Laboratory, Department of Agriculture, Salisbury, Southern Rhodesia.

carnations (cut flowers) is allowed as from November 15, 1938 instead of from November 30. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin, Anfang Dezember 1938, 18. Jahrg., Nr. 12, S. 109-110).

Australia (**Western Australia**). — On December 6, 1938 notice is given that Indian hemp (*Cannabis sativa*) has been declared a noxious weed throughout the State and that *Watsonia angusta*, *W. meriana* and *Antholyza aethiopica* have been declared noxious weeds within the boundaries of the Gingin Road Board District. (*Government Gazette of Western Australia*, Perth, December 3, 1938, No. 58, p. 2118).

*** On December 22, 1938 it has been published that Arum lily (*Zantedeschia* [*Richardia*] *aethiopica*) has been declared a noxious weed within the boundaries of the Capel Road Board District. (*Ibid.*, December 23, 1938, No. 61, p. 2191).

Cyprus. — By Order No. 197 of October 13, 1938, which may be cited as the Plant Diseases (*Icerya purchasi*) Order, 1938, within any area declared to be infested by this scale insect the following provisions shall have effect:—

(*a*) All or any trees or plants whatsoever within any such area as the Director of Agriculture may require shall be fumigated, sprayed, destroyed or otherwise treated as the Director of Agriculture shall require.

(*b*) No trees or plants or any part thereof shall be removed from any such area without the written permission of the Director of Agriculture previously obtained and such permission shall be subject to such conditions as he may require.

(*c*) Any person instructed by the Director of Agriculture may enter any land, garden, yard or any other place within any such area and may carry out such inspection and examination of any trees, plants any parts thereof and carry out such treatment of the same as may be required by the Director of Agriculture as in paragraph (*a*) hereof provided. (*Supplement No. 3 to the Cyprus Gazette No. 2679 of 14th October, 1938. Subsidiary Legislation*, Nicosia, 1938, pp. 480-481).

*** By Declaration No. 198 of same date the area described in the joint Schedule is declared to be a place infested with *I. purchasi*. (*Ibid.*, p. 481).

Colombia. — Law No. 203 of November 30, 1938 relative to plant protection, the import, export and transport of plants and other plant products, trade control and the use of insecticides, fungicides and the necessary apparatus, establishes the penalties for infractions of Government measures and also the quotas to be paid by the Government and growers towards the expenses incurred in the control of plant diseases and pests. (*Diario Oficial*, Bogotá, 1º de diciembre de 1938, año LXXIV, núm. 23938, pág. 595).

Dominican Republic. — In order to prevent the introduction of *Cercospora musae*, causal agent of Sigatoka disease now recorded in Central America, Queensland, Java, Malaya and Fiji, and also the disease, not yet determined, attacking the banana in Haiti, Decree No. 74 of November 7, 1938 prohibits import into the Dominican Republic of living or dead plant matter and *Musa* spp. from the above-mentioned countries. (*Revista de Agricultura*, San Cristóbal, Prov. Trujillo, República Dominicana, noviembre de 1938, vol. XXIX, núm. 110, pág. 556).

Egypt. — By Order of December 20, 1938, *Pulvinaria psidii* is declared a pest harmful to fruit trees.

The Governorship of Cairo, its surroundings and the town of Guizeh, have been declared infested by this scale insect.

It is prohibited to transport, by any means whatever, *Ficus* or guava plants and any parts or fruits of these from the infested zone to any other locality. (*Journal Officiel du Gouvernement Egyptien*, Le Caire, 26 décembre 1938, 65ème année, nº 141, p. 3).

*** By another Order of the same date, *Aulacaspis rosae* has also been declared a pest of fruit trees.

The Governorships of Alexandria and of Port Said have been declared infested by this scale insect.

It is prohibited to transport, by any means whatever, from the infested zone to any other locality, plants of the Rosaceae family, liable to attack by *A. rosae* (apple, pear, quince, plum, apricot, cherry, almond and peach trees, strawberry plants, rose bushes, etc.). The sale or offer for sale of plants, parts of plants or fruits, infested by this insect, is also prohibited. (*Ibid.*, p. 4).

United States of America. — Amendment No. 5 to revised rules and regulations supplemental to Notice of Quarantine No. 52 on account of the pink bollworm of cotton [*Pectinophora* (*Platyedra*) *gossypiella*] adds to the lightly infested area that part of Pinal County in Arizona not heretofore within the regulated area, all of Maricopa County in Arizona, and the Texas counties of Brooks, Jim Wells, Kenedy, Kleberg, and Nueces. This action is taken with respect to all counties, except Kenedy, owing to the recent finding of light infestations of the pink bollworm. Kenedy County is included in the regulated area because there are no facilities in that county for ginning the small acreage of cotton grown therein which is normally ginned in the regulated area.

This amendement of regulation 3 was approved on November 15, 1938 and became effective on November 17,1938. (*B. E. P. Q. - Q. 52*, [Washington, D. C.], 1938, 2 pp.).

Guadeloupe. — A Decree of the President of the French Republic dated November 9, 1938, enacts that, with a view to preventing the spread in Guadeloupe of banana diseases and pests, it is prohibited:—

(1) To utilize banana waste as packing material for transport of commodities within the Colony;

(2) To remove, transport or sell banana plants or parts of plants coming from infested plantations or regions.

Banana plantations are placed under the supervision of the Agricultural Service. For this purpose, every planter is required to declare his plantation in the place where he is resident.

Where a plantation is attacked by parasites or infected by a disease of some gravity, a special declaration must be made to the Agricultural Service which will make the necessary investigations and indicate the measures to be taken.

Owners of plantations infected by a cryptogamic disease or attacked by insects are required to apply the treatments prescribed by the Agricultural Service. The officers of this Service will supervise these applications.

On plantations seriously attached, the destruction of the plants on the spot, by burning, shall be effected by the owners, or at their expense, on the request of the Agricultural Service.

For the laying out of new plantations, application must be made to the Government of the Colony. Permission will be given only on the reasoned recommendation of the Agricultural Service. (*Journal officiel de la République française*, Paris, 18 novembre 1938, LXX^e année, n° 270, p. 13078).

Italy. — The Royal Decree-Law No. 2205 of July 27, 1938 relative to the organisation and operation of the Royal Agronomic Institute for Italian Africa (formerly the Italian Colonial Agricultural Institute, Florence) specifies that this Institute is the scientific and technical department of the Ministry of Italian Africa for agricultural research and experimentation.

The said Institute is required, *inter alia*, to study the plant and animal pests of crops; for this purpose the Institute has at its disposal a laboratory for agricultural entomology and another for plant pathology. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 28 febbraio 1939, anno 80°, n. 49, pp. 1067-1071).

*** By Ministerial Decree of November 23, 1938, the application of the exchange duty, at the reduced rate of 0.75 lire per cent., is extended, as from December, 15, 1938, to the parasiticide commercially sold as ' Polvere anticrittogamica al 16 per cento di rame '. (*Ibid.*, 26 dicembre 1938, anno 79°, n. 294, p. 5277).

*** By Ministerial Decree of December 5, 1938 this exchange duty is applied, as from January 1, 1939, to the product commercially sold as ' Solfocuprica '. (*Ibid.*, p. 5278).

*** By Ministerial Decree of December 19, 1938, a competition has been opened, based on tests and qualifications, for a bursary for advanced study in phytopathology with particular reference to citrus cultivation, at the Royal Observatory for Plant Diseases attached to the Royal Station for Fruit and Citrus Crops, Acireale. (*Ibid.*, 19 gennaio 1939, n. 15, pp. 290-291).

*** The Ministerial Decree of December 26, 1938 which fixes the special rules for the export of lettuces (cabbage and roman) and of endives (including curled variety) requires, *inter alia*, that these salads shall be free from attacks of parasites and frost damage. (*Ibid.*, 2 gennaio 1939, n. 1, pp. 4-7).

Kenya. — By Government Notice No. 851 of November 21, 1938, the importation into the Colony and Protectorate of Kenya of any rooting medium for plants which consists either wholly or in part of soil, whether or not it is attached to any plant, is prohibited.

No consignment of fruit grown in countries other than Zanzibar, Tanganyika Territory and Uganda, shall be permitted to enter the Colony unless accompanied by a certificate signed by an officer of the exporting country duly authorized by the Government of that country, to the effect that a percentage (to be stated) of the packages in the consignment has been examined by him and has been found to be free from insect pests.

The Schedule to Government Notice No. 688 of September 2, 1937 [see this *Bulletin*, 1938, No. 4, pp. 82-83] is amended by adding at the end thereof the following:— Barberry [*Berberis vulgaris*] and buckthorn [*Rhamnus cathartica*]. (*Colony and Protectorate of Kenya. Official Gazette Supplement. Proclamations, Rules and Regulations, No. 42. Supplement No. 46*, Nairobi, November 29, 1938, Vol. XL, No. 57, p. 373).

Morocco (French Zone of). — Decree of November 15, 1938 authorizes the destruction of boars which have been causing severe damage to the crops in the territory of the Ouezzane Circle. (*Bulletin Officiel*, Rabat, 25 novembre 1938, XXVII^e année, n° 1361, p. 1605).

*** By Vizirial Decree of December 24, 1938 (2 kaada 1357), the Vizirial Decree of March 17, 1936 (23 hija 1354) listing the plant parasites for which syndical control associations may be established [see this *Bulletin*, 1936, No. 8, p. 179] has been supplemented as follows:—

. . . . . .

Mediterranean fruit fly (*Ceratitis capitata*, Wied.). (*Ibid.*, 27 janvier 1939, XXVII^e année, n° 1370, p. 104).

*** An Order of December 30, 1938 authorizes the destruction of rabbits causing serious damage in the Rabat area and in Port-Lyautey territory. (*Ibid.*, 13 janvier 1939, n° 1368, p. 37).

*** An Order of December 31, 1938 authorizes the establishment of a syndical association for the control of plant parasites called the 'Association syndicale de lutte contre les parasites des plantes de Sidi-Slimane'. (*Ibid.*).

New Zealand. — By Resolution passed by the Kaitieke County Council on November 14, 1938, and published by the Minister of Agriculture on November

24, 1938, the said Country Council has assumed responsability for the administration of the Noxious Weeds Act, 1928 as from November 14, 1938. (*The New Zealand Gazette*, Wellington, December, 1, 1938, Numb. 85, p. 2479).

Rumania. — Order No. 300.216 of November 17, 1938 authorizes the transport through Rumania of all species of trees, shrubs, plants, cuttings, vines and other root plants, and also potatoes, beans, peas, lentils and fodder seed, provided that consignments are accompanied by a certificate testifying to condition and origin, granted by a State establishment recognized by the Rumanian Government. (*Monitorul Oficial*, Bucureşti, la 23 Noemvrie 1938, anul XVI, Nr. 273, pag. 5601).

Tunis. — By Decree of November 17, 1938, owners or occupiers of establishments such as nurseries, gardens or other horticultural land engaged regularly in the propagation of, or trade in plants, are required to destroy any parasitic foci appearing on their parent plants, beds, stocks, young plants whether grafted or not, windbreaks, etc.

On such establishments, whatever the condition of the plants, the following treatments are compulsory:—

(1) For all deciduous fruit trees:—

(*a*) Winter spraying, by means of a sprayer with a minimum pressure of 8 kg. to the square centimetre, with one of the following materials: organic colouring substances, anthracenic oils, white oils, polysulphides.

This treatment must be effected by February 15 at latest.

(*b*) Spraying carried out at the time of budding with copper mixture, containing 0.50 per cent. of copper metal.

(2) In addition to the above treatment, almond, apricot, peach, plum and ch rry trees must be given the following treatments:—

Spraying effected in autumn, when the leaves fall, with a copper mixture containing 0.75 per cent. of copper metal.

This treatment must be effected by December 20 at latest.

Parasiticides other than those enumerated may be used if a permit is obtained from the Director of Economic Affairs.

Plants ascertained in the course of the sanitary inspection to be infested shall be at once destroyed. In default, the destruction will be effected by the administrative authority, without prejudice to the infliction of the penalties provided. (*Journal Officiel Tunisien*, Tunis, 6 décembre 1938, 56e année, nº 97, p. 1575).

South Africa (Union of). — By Proclamation No. 265 of December 1, 1938, the removal of any plant or portion of a plant belonging to any species of *Opuntia* (prickly pear) from the districts where certain insects, namely *Cactoblastis cactorum*, are being used for the biological control of the aforesaid prickly pears, is prohibited except under authority of the Minister of Agriculture and Forestry. (*The Union of South Africa. Government Gazette*, Pretoria, 9 December 1938, Vol. CXIV, No. 2590, p. 830).

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diaperinus, A. piceus, Attagenus piceus, Trogoderma versicolor, Anthrenus verbasci, Ptinus villiger, P. fur, P. brunneus, P. tectus, Mezium americanum, Gibbium psyllioides, Alphitophagus bifasciatus, Carpophilus dimidiatus, C. humeralis, Lasioderma serricorne, Stegobium paniceum, Catorama sp., *Troctes divinatorius, Trogium pulsatorium, Lepisma saccharina, Thermobia domestica, Blatta orientalis, Periplaneta americana, Tyroglyphus farinae, T. longior,* etc.].

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